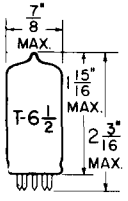
TUNG-SOL

TRIODE-PENTODE

MINIATURE TYPE



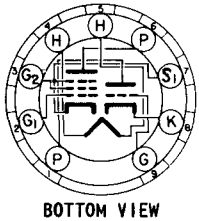
GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER

4.7 VOLTS 0.6 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

SMALL BUTTON
9 PIN BASE

9AE

THE 5GH8 IS A SHARP-CUTOFF PENTODE AND A MEDIUM-MU TRIODE CONTAINED IN A 9 PIN MINIATURE ENVELOPE. EACH SECTION HAS A SEPARATE CATHODE AND IS ELECTRICALLY INDEPENDENT. THE PENTODE SECTION IS INTENDED PRIMARILY FOR SERVICE AS AN OSCILLATOR IN THE HORIZONTAL DEFLECTION SYSTEM OF TELEVISION RECEIVERS. EXCEPT FOR HEATER CHARACTERISTICS, THE 5GH8 IS IDENTICAL TO THE 6GH8.

DIRECT INTERELECTRODE CAPACITANCES ←

	WITH SHIELD[A]	WITHOUT SHIELD	
PENTODE SECTION:			
GRID #1 TO PLATE: (Pg1 TO Pp) (MAX.)	0.015	0.02	μμf
INPUT: Pg1 TO (H+Pk+Pg2+Pg3+I.S.)	5.5	5.5	μμf
OUTPUT: Pp TO (H+Pk+Pg2+Pg3+I.S.)	3.4	2.6	μμf
HEATER TO CATHODE (Pk TO H)	3.0[B]	3.0	μμf
TRIODE SECTION:			
GRID TO PLATE: (Tg TO Tp)	1.6	1.6	μμf
INPUT: Tg TO (Tk+H+Pk+Pg3+I.S.)	3.6	3.4	μμf
OUTPUT: Tp TO (Tk+H+Pk+Pg3+I.S.)	2.2	1.7	μμf
HEATER TO CATHODE: (Tk TO H)	3.0[B]	3.0	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

	PENTODE SECTION (HORIZONTAL OSCILLATOR SERVICE)[C]	TRIODE SECTION	
HEATER VOLTAGE	4.7	4.7	VOLTS
MAXIMUM ALLOWABLE HEATER CURRENT	0.56 to 0.64		AMP.
MAXIMUM DC PLATE VOLTAGE	350	330	VOLTS
MAXIMUM SCREEN SUPPLY VOLTAGE	330	---	VOLTS
MAXIMUM SCREEN VOLTAGE	SEE SCREEN RATING CHART		
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0	0.	VOLTS
MAXIMUM PEAK NEGATIVE DC GRID #1 VOLTAGE	175	---	VOLTS
MAXIMUM PLATE DISSIPATION	2.5	2.5	WATTS
MAXIMUM SCREEN DISSIPATION	0.55	---	WATTS
MAXIMUM DC CATHODE CURRENT	20	---	MA.
MAXIMUM PEAK CATHODE CURRENT	300	---	MA.

CONTINUED ON FOLLOWING PAGE

→ INDICATES A CHANGE.

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS — CONT'D.

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

	PENTODE SECTION (HORIZONTAL OSCILLATOR SERVICE)[C]		TRIODE SECTION	
HEATER VOLTAGE	4.7		4.7	VOLTS
MAXIMUM HEATER–CATHODE VOLTAGE:				
HEATER POSITIVE WITH RESPECT TO CATHODE				
DC COMPONENT	100		100	VOLTS
TOTAL DC AND PEAK	200		200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE				
TOTAL DC AND PEAK	200		200	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE				
WITH FIXED BIAS	2.2		2.2	MEGOHMS
WITH CATHODE BIAS	2.2		2.2	MEGOHMS
HEATER WARM–UP TIME (APPROX.)*		11.0		SECONDS

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

AVERAGE CHARACTERISTICS

	PENTODE SECTION	TRIODE SECTION	
HEATER VOLTAGE	4.7	4.7	VOLTS
HEATER CURRENT	0.6	0.6	AMP.
PLATE VOLTAGE	125	125	VOLTS
SCREEN VOLTAGE	125	---	VOLTS
GRID #1 VOLTAGE	-1.0	-1.0	VOLTS
AMPLIFICATION FACTOR	---	46	
PLATE RESISTANCE (APPROX.)	200 000	5400	OHMS
TRANSCONDUCTANCE	7500	8500	μMHOS
PLATE CURRENT	12	13.5	MA.
SCREEN CURRENT	4.0	----	MA.
GRID #1 VOLTAGE (APPROX.)			
I_b = 10 μAMPS.	-8	-8	VOLTS

*HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

[A] WITH EXTERNAL SHIELD 315 CONNECTED TO CATHODE OF SECTION UNDER TEST UNLESS OTHERWISE INDICATED.

[B] WITH EXTERNAL SHIELD 315 CONNECTED TO GROUND.

[C] FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.